

## Claims

1. Disc brake (10), comprising
  - two brake shoes (16, 18), which for generating a  
5 clamping force (B, B') are pressable against both  
sides of a brake disc (20);
  - a conversion device (42), which is connectable to a  
motor (30) and which converts a driving motion of the  
motor (30) into an actuating motion for actuating at  
10 least one of the brake shoes (16, 18); and
  - a support device (62) for taking up a reaction  
force (C), which upon generation of the clamping force  
(B, B') is introduced into the conversion device (42),  
characterized in  
15 that between the conversion device (42) and the  
support device (62) at least one force sensor is  
disposed for measuring at least a fraction of the  
reaction force (C).
- 20 2. Disc brake according to claim 1, characterized in that  
the at least one force sensor (80) has a planar form  
of construction.
3. Disc brake according to claim 1 or 2, characterized in  
25 that the at least one force sensor (80) is a  
piezoelectric sensor.
4. Disc brake according to one of claims 1 to 3,  
characterized in that the at least one force  
30 sensor (80) has a piezoresistive layer (90) applied  
onto a planar substrate (92).

5. Disc brake according to one of claims 1 to 4,  
characterized in that the disc brake (10) comprises  
two or more force sensors (80, 80', 80'', 80'''), which  
are disposed at a distance from one another in a plane  
at right angles to a longitudinal axis (A) of the disc  
brake (10).
6. Disc brake according to one of claims 1 to 5,  
characterized in that the disc brake (10) comprises  
four or more force sensors (80, 80', 80'', 80'''),  
wherein each two adjacent force sensors (80, 80',  
80'', 80''') have an angular distance in the order of  
magnitude of 90° or less in relation to the  
longitudinal axis (A) of the disc brake (10).
7. Disc brake according to one of claims 1 to 6,  
characterized in that the support device (62) is  
coupled rigidly to a housing (60) of the disc  
brake (10).
8. Disc brake according to claim 7, characterized in that  
the support device comprises a step (62) formed in the  
housing (60) of the disc brake (10).
9. Disc brake according to claim 8, characterized in that  
the at least one force sensor (80) is applied onto the  
step (62) or integrated at least partially into the  
step (62).
10. Disc brake according to one of claims 1 to 8,  
characterized in that between the conversion  
device (42) and the support device (62) a carrier (84)

is disposed for receiving the at least one force sensor (80).

11. Disc brake according to one of claims 1 to 8,  
5 characterized in that between the conversion device (42) and the support device (62) a bearing (64) is disposed and the at least one force sensor (80) is fastened in or on a component (76) of the bearing (64).  
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12. Disc brake according to one of claims 1 to 11,  
characterized in that the conversion device (42) converts a rotary driving motion of the motor (30) into a translatory actuating motion for actuating at  
15 least one of the brake shoes (16, 18).
13. Disc brake according to claim 12, characterized in that the support device (62) interacts with a component (46) of the conversion device (42), which  
20 component is settable in rotational motion.
14. Disc brake according to claim 12 or 13, characterized in that the conversion device (42) comprises a nut/spindle arrangement (44, 46, 50).  
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15. Disc brake according to claim 14, characterized in that the spindle (46) is settable in rotational motion and supported relative to the reaction force (C) against the step (60).  
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16. Vehicle brake system having a disc brake (10) according to one of claims 1 to 16.